

**WHAT IS CLAIMED IS:**

1. A clock recovery circuit, which is capable of automatically adjusting frequency range of a VCO in the clock recovery circuit, the clock recovery circuit comprising:

5        a main VCO for generating a main oscillation clock;  
          a phase detector for receiving an input signal and the main oscillation clock and generating a phase error signal;  
          a main loop filter for receiving the phase error signal and generating a fine control voltage;

10      an auxiliary VCO for generating an auxiliary oscillation clock;  
          an auxiliary frequency detector for receiving the main oscillation clock and the auxiliary oscillation clock and generating an auxiliary frequency error signal; and  
          an auxiliary loop filter for receiving the auxiliary frequency error signal and generating a coarse control voltage;

15      wherein the main VCO generates the main oscillation clock according to the fine control voltage and the coarse control voltage, and the auxiliary VCO generates the auxiliary oscillation clock according to a reference fine control voltage and the coarse control voltage.

2. The clock recovery circuit according to claim 1, wherein the coarse control voltage  
20      is used to set the frequency range of the main VCO.

3. The clock recovery circuit according to claim 2, wherein the coarse control voltage  
is used to set the frequency range of the auxiliary VCO.

4. The clock recovery circuit according to claim 1, further comprising a main frequency detector for receiving the input signal and the main oscillation clock and generating a main frequency error signal.
  5. The clock recovery circuit according to claim 4, wherein the main loop filter further receives the main frequency error signal as a reference for generating the fine control voltage.
  6. The clock recovery circuit according to claim 1, further comprising a frequency divider, which is arranged after the main VCO, for dividing the frequency of the main oscillation clock.
- 10 7. The clock recovery circuit according to claim 1, wherein the main VCO and the auxiliary VCO have the same design parameters.
8. The clock recovery circuit according to claim 1, wherein the clock recovery circuit is applied to a control circuit of an optical disk drive.